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Low serum 25-hydroxyvitamin D is associated with higher risk of frequent headache in middle-aged and older men

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Abstract

© The Author(s) 2017. Vitamin D has been suggested to have a role in various neurovascular diseases, but the data regarding headache is inconclusive. Our aim was to investigate the associations between serum 25-hydroxyvitamin D [25(OH)D], a marker for vitamin D status, and risk of frequent headache. The study population consisted of 2601 men from the population-based Kuopio Ischaemic Heart Disease Risk Factor Study (KIHD) from eastern Finland, aged 42-60 years in 1984-1989. The cross-sectional associations with prevalence of self-reported frequent headache (defined as weekly or daily headaches) were estimated with multivariable-adjusted odds ratios. The average serum 25(OH) concentration was 43.4 nmol/L (SD 18.9, min-max 7.8-136.1 nmol/L). A total of 250 men (9.6%) reported frequent headache. The average serum 25(OH)D concentration among those with frequent headache was 38.3 nmol/L (SD 18.8) and 43.9 nmol/L (SD 18.9) among those without frequent headache, after adjustment for age and year and month of blood draw (P for difference < 0.001). After multivariable adjustments, those in the lowest vs. the highest serum 25(OH)D quartile had 113% (95% CI 42, 218%; P for trend < 0.001) higher odds for frequent headache. In conclusion, low serum 25(OH)D concentration was associated with markedly higher risk of frequent headache in men.

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